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EXAMINER

AMINI, JAVID A

ART UNIT

PAPER NUMBER

2672

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/909,037

Applicant(s)

MATTHIES, DENNIS L.

Examiner

Javid A Amini

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8 and 11-26 rejected under 35 U.S.C. 102(b) as being anticipated by Mazurek et al.

1. Claim 1.

“A large area display comprising: a first structural plate; and a first and second tile adjustably connectable to said plate, said tiles including image generating pixels, each of said tiles adjustably connectable to said plate”, Mazurek et al. teach in abstract A frame is connected to the base plate and surrounds the base plate and display modules. A global cover glass assembly disposed above the display modules encloses and protects the display modules. Included in each of the display modules is a light source configuration of a light box and a light box cover, which utilizes global light sources that provide efficient uniform backlighting of the corresponding display. The alignment devices permit alignment of the display modules with respect to each other and to a global black mask disposed in the global cover glass assembly to achieve a display system that is seamless in appearance. Mazurek illustrates in Fig. 3, that Small adjustments of the display modules 100 in the vertical and horizontal directions can be made by the alignment devices 320 that secure each of the display modules 100 to the base plate 310 as shown in FIG. 3.

Art Unit: 2672

2. Claim 2.

“The display of claim 1 including a set of fasteners on said first and second tiles, said fasteners fastening said first and second tiles to said first structural plate”, Mazurek illustrates in Fig. 3, each one of the modules 100 is attached to a base plate 310 by respective module alignment devices 320.

3. Claim 3.

“The display of claim 2 wherein said fasteners include threaded pins, said plate including holes to receive said pins, said fasteners adjustably position said tiles relative to said plate”, Mazurek discloses in (col. 7, lines 14-41) that Screws 345 and 346 and springs 347 and 348 of the standoffs 342 and 344 force the global cover glass assembly 330 in contact with the display modules 100.

4. Claim 4.

“The display of claim 3 wherein the hole in said plate is of substantially greater diameter than the diameter of one of said pins”, Mazurek illustrates in Fig. 21, that the hole 1615 should have a substantially larger diameter than a diameter of the post 1610 and bushing 1630 so as not to impede horizontal and vertical movement of the post 1610 by the alignment device 320.

5. Claim 5.

“The display of claim 4 including a pair of locking nuts, one on each side of said plate”, Mazurek discloses in (col. 19, lines 54-63) that the screw cap 1752 is locked onto the portion of the screw 1750 that extends beyond the second outer retainer hole 1770 .

6. Claim 6.

“The display of claim 5 including at least two pins on each tile”, Mazurek illustrates in Fig. 21.

Art Unit: 2672

7. Claim 7.

“The display of claim 1 wherein each tile may be adjusted in a plane parallel to the plane of said plate and inwardly and outwardly with respect to said plane”, Mazurek discloses in (col. 12, lines 24-33) that horizontal edge regions 830 and 840 of the cover 425 extend in a parallel direction to the fluorescent lamp 470 and receive less light from the fluorescent light lamps 470 than other regions of the light box cover 425, such as a center region 850.

8. Claim 8.

“The display of claim 1 wherein said first and second tiles have alignment tabs and grooves to align the first tile relative to the second tile”, Mazurek discloses in abstract that each one of a plurality of module alignment devices attach a respective display module to a large base plate.

9. Claim 11.

“The display of claim 1 including a second structural plate and a plurality of tiles connected to a first and second structural plates, said first and second structural plates being adjustably securable to a third structural plate”, Mazurek illustrates in Fig. 3.

10. Claim 12.

“The display of claim 11 including a plurality of tiles connected to first and second structural plates and a plurality of first and second structural plates coupled to a third structural plate to form a large area display”, Mazurek illustrates in Fig. 3.

11. Claim 13.

“A method comprising: adjustably securing a plurality of tiles to a first structural plate to form a large area display; and adjusting the position of at least two of those tiles with respect to one another and said plate”, Mazurek et al. teach in abstract A frame is connected to the base plate

Art Unit: 2672

and surrounds the base plate and display modules. A global cover glass assembly disposed above the display modules encloses and protects the display modules. Included in each of the display modules is a light source configuration of a light box and a light box cover, which utilizes global light sources that provide efficient uniform backlighting of the corresponding display. The alignment devices permit alignment of the display modules with respect to each other and to a global black mask disposed in the global cover glass assembly to achieve a display system that is seamless in appearance. Mazurek illustrates in Fig. 3, that Small adjustments of the display modules 100 in the vertical and horizontal directions can be made by the alignment devices 320 that secure each of the display modules 100 to the base plate 310 as shown in FIG. 3.

12. Claim 14.

“The method of claim 13 including adjustably mounting a plurality of tiles to a first structural plate and mounting a plurality of first structural plates to a second structural plate”, Mazurek illustrates in Fig. 3, each one of the modules 100 is attached to a base plate 310 by respective module alignment devices 320.

13. Claim 15.

“The method of claim 14 including adjustably mounting said first structural plate to said second structural plate”, Mazurek discloses in (col. 7, lines 14-41) that Screws 345 and 346 and springs 347 and 348 of the standoffs 342 and 344 force the global cover glass assembly 330 in contact with the display modules 100.

14. Claim 16.

Art Unit: 2672

“The method of claim 15 including providing alignment devices on each tile to position each tile relative to the other tile”, Mazurek discloses in (col. 19, lines 54-63) that the screw cap 1752 is locked onto the portion of the screw 1750 that extends beyond the second outer retainer hole 1770 . Mazurek discloses in (col. 7, lines 14-41) that Screws 345 and 346 and springs 347 and 348 of the standoffs 342 and 344 force the global cover glass assembly 330 in contact with the display modules 100.

15. Claim 17.

“The method of claim 13 including forming a module made up of a plurality of tiles coupled to a first structural plate and providing electrical signals to said module for each of said tiles”, Mazurek discloses in (col. 3, lines 45-55) that At least one thin electrical conductor connects electrical edge contacts of a corresponding thin seal display to the respective display driver circuit board.

16. Claim 18.

“The method of claim 13 including forming a module made up of a plurality of tiles coupled to said first structural plate and providing a signal to said module for said plurality of tiles, and separating said signal into components to drive each of said tiles”, Mazurek discloses in (7, lines 14-32) that A power supply 380, such as those well known in the art, for providing electrical energy to the display modules 100 may also be disposed on the rear plate 350.

17. Claim 19.

“The method of claim 13 including enabling said tiles to be coupled to said first structural member in the field”, Mazurek illustrates in Fig. 21.

18. Claim 20.

Art Unit: 2672

“A method comprising: securing a plurality of display tiles to a plurality of first structural plates to form modules; and securing a plurality of modules to a second structural plate to form a large area display”, Mazurek et al. teach in abstract A frame is connected to the base plate and surrounds the base plate and display modules. A global cover glass assembly disposed above the display modules encloses and protects the display modules. Included in each of the display modules is a light source configuration of a light box and a light box cover, which utilizes global light sources that provide efficient uniform backlighting of the corresponding display. The alignment devices permit alignment of the display modules with respect to each other and to a global black mask disposed in the global cover glass assembly to achieve a display system that is seamless in appearance. Mazurek illustrates in Fig. 3, that Small adjustments of the display modules 100 in the vertical and horizontal directions can be made by the alignment devices 320 that secure each of the display modules 100 to the base plate 310 as shown in FIG. 3.

19. Claim 21.

“The method of claim 20 including adjustably securing said plurality of tiles to first structural plates”, Mazurek discloses in (col. 7, lines 14-41) that Screws 345 and 346 and springs 347 and 348 of the standoffs 342 and 344 force the global cover glass assembly 330 in contact with the display modules 100.

20. Claim 22.

“The method of claim 20 including adjustably securing said modules to said second structural plate”, Mazurek discloses in (col. 7, lines 14-41) that Screws 345 and 346 and springs 347 and 348 of the standoffs 342 and 344 force the global cover glass assembly 330 in contact with the display modules 100.

Art Unit: 2672

21. Claim 23.

“The method of claim 20 including threadedly fastening said tiles to said first structural plates”, Mazurek discloses in (col. 7, lines 14-41) that Screws 345 and 346 and springs 347 and 348 of the standoffs 342 and 344 force the global cover glass assembly 330 in contact with the display modules 100.

22. Claim 24.

“The method of claim 23 including threadedly fastening said modules to said second structural plate”, Mazurek discloses in (col. 7, lines 14-41) and Fig. 3, that Screws 345 and 346 and springs 347 and 348 of the standoffs 342 and 344 force the global cover glass assembly 330 in contact with the display modules 100.

23. Claim 25.

“The method of claim 20 including securing said tiles to said first structural plates so that the position of one tile may be adjusted relative to another tile in three dimensions”, Mazurek discloses in (col. 18, lines 39-58) that Small adjustments of the display modules 100 in the vertical and horizontal directions can be made by the alignment devices 320 that secure each of the display modules 100 to the base plate 310 as shown in FIG. 3. The alignment devices 320 further permit the realignment of the display modules 100 whose alignment may change over time and temperature as a function of the material characteristics of the base plate 310 to which the display modules 100 are attached as is shown in FIG. 3. However, the more stable the base plate 310 material, the less correction of the alignment due to time and temperature is required. A suitable stable base plate material is mica-enhanced aluminum.

24. Claim 26.

Art Unit: 2672

“A large area display comprising: a plurality of tiles arranged in an array with gaps between adjacent tiles; and each of said tiles having a regular pattern of surface features defined in a surface of said tiles so as to camouflage the appearance of the gaps between adjacent tiles”, Mazurek et al. teach in abstract A frame is connected to the base plate and surrounds the base plate and display modules. A global cover glass assembly disposed above the display modules encloses and protects the display modules. Included in each of the display modules is a light source configuration of a light box and a light box cover, which utilizes global light sources that provide efficient uniform backlighting of the corresponding display. The alignment devices permit alignment of the display modules with respect to each other and to a global black mask disposed in the global cover glass assembly to achieve a display system that is seamless in appearance. Mazurek illustrates in Fig. 3, that Small adjustments of the display modules 100 in the vertical and horizontal directions can be made by the alignment devices 320 that secure each of the display modules 100 to the base plate 310 as shown in FIG. 3.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Mazurek et al. and further in view of Kitai.

25. Claim 9.

Art Unit: 2672

“The display of claim 1 including mullions to fit over the gaps between said first and second tiles”, Mazurek does not explicitly specify mullions, however Kitai discloses in (col. 2, lines 23-27) that provides an EL module, instead of mullion, which significantly reduces the gap between the light emitting display elements and the edge of the substrate thereby facilitating tiling of multiple EL modules.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Kitai into Mazurek in order to improve light collection from the pixels, and more important part of this motivation is: this type of structure avoids the need for edge connections and edge sealing (see Kitai, col. 2, lines 4-12). Plastic lenses were bonded to the viewing side of substrate.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

26. Claims 10 and 27-30 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The details, appearance and shape of all the surface profile features (V-shaped and slot-like) of the design are not clearly disclosed in the specification. Also in claim 10, the details, appearance and shape of all the mullion (for example: tee shape) of the design are not clearly disclosed in the specification.

Art Unit: 2672

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A Amini whose telephone number is 703-605-4248. The examiner can normally be reached on 8-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 703-305-4713. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-8705 for regular communications and 703-746-8705 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

Javid A Amini
Examiner
Art Unit 2672

Javid Amini
June 12, 2003



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